Abstract

An electronic device for performing biological operations includes a support substrate, an array of microlocations disposed on the substrate, the array being formed within a region. A first collection electrode is disposed on the substrate adjacent to the array. A second collection electrode is disposed on the substrate adjacent to the array and at least in part on the opposite side of the region. A method for analysis of a biological sample using the electronic device includes the steps of providing the sample to the device, placing the first collection electrode attractive for desired charge biological materials, thereby concentrating charged biological materials on the collection electrode. The second collection electrode is placed attractive relative to the first collection electrode, thereby transporting biological materials from the first collection electrode towards the second collection electrode and over at least a portion of the array of microlocations.